

sumption of fly-contaminated foods and of raw vegetables grown in polluted soils provides an important means of transmission. Water-borne outbreaks are frequent in the rural villages, but they have decreased within recent years with the improvement of the drinking water supplies in the larger cities. Reports for 1949 show that 495 cases of typhoid fever were treated in government hospitals throughout the country, 295 cases in institutions in Damascus *muhafazat*. Similarly, 671 cases were recorded in 1950. 164

The relative prevalence of the different paratyphoid infections is uncertain. Paratyphoid A fever predominates among the cases in which the differential diagnosis has been established, although paratyphoid B infections are undoubtedly more numerous. Paratyphoid C fever has been diagnosed in Lebanon, but its presence in Syria has not been determined. 164

Immunization with typhoid-paratyphoid A and B vaccine is carried on by the health authorities among the contacts of known cases. Immunization is also widely practiced in the urban areas. 751

Dysenteries. Dysentery is prominent among the causes of illness. The available data give little indication of the proportionate prevalence of amebic and bacillary infections. Amebiasis is widespread, and associated with a high percentage of chronic carriers. Contaminated foods constitute the chief sources of infection, and the maximum incidence is noted in spring and summer, when lettuce and other green, leafy vegetables are consumed in abundance. 164 [262]

Recognized *Shigella dysenteriae* infections are rare, but occasional bacteriologically confirmed cases are recorded. Strains of the Flexner group are probably responsible for the majority of cases of bacillary dysentery. The differentiation of types is made only in Damascus, and, since few cases are hospitalized, the existing records have little significance.

Diarrhea and enteritis are prevalent, especially in infancy and early childhood. Local authorities state that fully 85 per cent

versal among the 15 camels slaughtered in the same period, but the consumption of camel's meat is normally restricted to small groups of the population. 232
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Rare cases of trichinosis are reported among the Christian peoples. Canine infections with the fluke, *Heterophyes heterophyes*, are numerous, and one instance of infection in man has been recorded. 164

Brucellosis. Brucellosis is enzootic among the goats and the cattle. Sporadic cases of undulant fever, caused by *Brucella melitensis*, occur in man. However, infection with *Br. abortus* has not been reported. According to local custom, milk is seldom used without boiling, but infection may result from the consumption of contaminated cheese or butter, as well as from contact with infected animals. 232
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DISEASES SPREAD CHIEFLY THROUGH THE RESPIRATORY TRACT

Tuberculosis. The reporting of tuberculosis is not compulsory in Syria, and the prevalence of the disease is not accurately known. On the basis of mortality statistics for 1947 and 1949, about 1.8 to 2.0 per cent of the total recorded deaths were due to tuberculosis. The usual discrepancies in reporting are exaggerated, however, by the tendency to conceal the presence of tuberculosis because of the social stigma attached to the disease. From 80 to 90 per cent of the known deaths were attributed to pulmonary infection, but nonpulmonary forms of tuberculosis are common in most areas. Competent local authorities estimated that there were at least 32,000 cases of tuberculosis in the country in 1951, representing a morbidity rate of about 10 per 1,000 population. 164
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In the survey carried on in Damascus in 1950, tuberculin tests were performed on 10,695 individuals between 6 and 24 years of age. The positive reaction rate rose progressively with age: 12 per cent of 563 children, 6 years of age, gave a positive reaction to tuberculin, and 46 to 51 per cent of 1,079 persons from 16 to 19 years of age. 659
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761 Comparative rates in urban and rural com-
 369 munities were determined in a series of tests
 164 on unorganized groups in the city and two
 adjacent farming districts. In Damascus,
 positive reactions to tuberculin were given
 by 47.7 of the boys and 40.8 per cent of
 the girls tested at 15 years of age. At 20
 to 25 years of age, positive reactions were
 obtained in 86.7 per cent and 77.4 per cent,
 respectively; at 40 to 45 years of age, in
 95.6 and 86.6 per cent, respectively. In the
 rural communities the positive reaction
 rates were consistently lower, but ap-
 proached the urban levels in the older age
 groups. Among individuals at 15 years of
 age, 51.6 per cent of the boys and 27.2 per
 cent of the girls reacted to tuberculin in
 one area, and 18.1 per cent of the boys and
 21.2 per cent of the girls, in another. At 40
 to 45 years of age, the proportion of posi-
 tive reactors averaged 80 per cent in the
 first series and 50 to 100 per cent in the
 second.⁴⁴

744 Within recent years the Ministry of
 751 Health has embarked upon a tuberculosis
 747 control program. In January, 1950, a tuber-
 culin testing and BCG inoculation cam-
 paign was organized under the auspices of
 the United Nations International Children's
 Emergency Fund and associated organiza-
 tions, which was taken over by the Ministry
 659 in September. Surveys have been carried
 361 out in most of the provincial capitals and
 751 surrounding rural districts, and the Min-
 istry contemplates the gradual extension of
 the campaign to cover the populations in all
 parts of the country. In the course of the
 investigations completed in 7 provinces be-
 tween January and September, 1950, almost
 417,000 persons were tuberculin tested, and
 over 188,000 were inoculated with BCG vac-
 cine. The majority were schoolchildren, al-
 though miscellaneous population groups of
 all ages were also included. The proportion
 of positive reactors in the different prov-
 inces ranged from 23 per cent in Jebel ed
 Druz (As Suwaydah) to 42 per cent in
 Aleppo.

758 The diagnostic and the treatment facili-
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ties are inadequate, especially in the rural areas. Up to 1949 there were only 2 small tuberculosis hospitals in the entire country —near Damascus and near Aleppo. The development of increased medical facilities has recently been undertaken by the Ministry, and, in 1951, additions to the hospital near Damascus, to provide a total of 350 beds, and a new 300-bed hospital at Aleppo were under construction. Plans were also projected for the erection of a 500-bed hospital in Latakia province, which would bring the total number of beds available for the isolation and the treatment of tuberculous patients to between 1,000 and 1,200.

A tuberculosis demonstration and training center was established in Damascus in 1952 under the direction of the World Health Organization in collaboration with the Ministry and the Syrian University. It provides a regional headquarters for the training of doctors, nurses and social workers in the public health, the therapeutic and the social aspects of the disease.

Smallpox. Vaccination against smallpox is compulsory, but enforcement is necessarily incomplete in the more remote areas and among the nomadic tribes. Outbreaks occur from time to time, with sporadic cases reported almost annually in the intervening

years. The disease was epidemic in Syria and Lebanon in 1933-34, but from 1935 to 1941 only occasional cases were observed. In 1941, smallpox spread to Syria from Iraq, where an epidemic focus had developed in 1940. Over 1,980 cases were recorded in 1942 and 1,132 in 1943. The outbreaks subsided in 1944, and again no more than sporadic cases were noted until 1948, when 894 cases were reported. The known incidence declined to 643 cases in 1949 and subsequently to 15 cases in 1950-51.

Other Infections. Pneumonia and influenza are prevalent. Epidemics of measles are frequent, with the peak of prevalence normally between January and May. The majority of cases are not seen by the medical officers, but, from the fragmentary data available, the fatality rates appear to aver-

cept in the vicinity of the principal rivers. 312
Domestic supplies are derived from wells, springs or rivers, and sometimes from water holes or rain-water cisterns. Untreated 312
piped water supplies serve all or parts of 364
the larger towns. The municipal supplies of Damascus and Aleppo are controlled for purity, but contamination is frequent in the smaller communities. Sewerage systems are available in the chief cities, but the methods of sewage disposal are generally primitive in towns and villages. The standards of nutrition vary, depending upon the economic and the social conditions in different regions. 146
Undernutrition and subclinical avitaminosis are widespread, but serious deficiency diseases are encountered only among limited population groups.

The most prominent disease problems are 164
malaria, trachoma and dysentery, both amebic and bacillary. Enteric fevers, tuberculosis, helminthiasis and skin infections are prevalent. Venereal diseases are widely distributed, while bejel is endemic among the nomadic and the seminomadic peoples of the northeastern provinces. Hookworm infection, schistosomiasis, caused by *Schistosoma haematobium*, and leprosy exist in scattered foci. Localized outbreaks of cholera were reported in 1947-48, the first in 20 years. Vaccination against smallpox is compulsory, but sporadic cases and occasional epidemics are recorded. Outbreaks of louse-borne typhus are recurrent, while sporadic cases are reported almost annually. Small outbreaks of louse-borne relapsing fever have coincided with regional epidemics. Measles and the common respiratory infections are endemic, and frequently epidemic. Cutaneous leishmaniasis, brucellosis, rabies, tetanus, anthrax, dengue fever and sandfly fever are endemic. Meningococcus meningitis, diphtheria, plague, tick-borne relapsing fever and murine typhus are sporadic. Recognized cases of scarlet fever and poliomyelitis are apparently rare. Doubtful cases of tick-borne typhus and kala-azar have been described. 751 164